

September 27, 1999

VIA HAND DELIVERY

Magalie Roman Salas
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

EX PARTE PRESENTATION
RECEIVED

SEP 27 1999

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

**Re: Second Report of the GSO FSS Ka-Band Blanket Licensing
Industry Working Group; IB Docket No. 98-172**

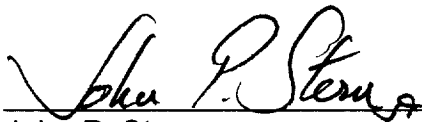
Dear Ms. Salas:

The undersigned U.S. Ka-Band licensees hereby submit an original and four copies of a Second Report of the GSO FSS Ka-Band Blanket Licensing Industry Working Group in response to the Commission's Notice of Proposed Rulemaking to establish blanket licensing procedures for satellite earth stations in the 17.7-20.2 GHz and 27.5-30.0 GHz bands.¹ The Second Report summarizes the successful conclusion of the work of this group in developing recommended technical parameters and rule proposals that will allow the Commission to issue blanket licenses for large numbers of Ka-band geostationary satellite orbit (GSO) fixed-satellite service ("FSS") earth stations on a routine basis.

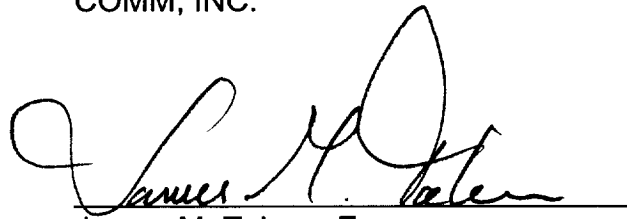
Respectfully submitted,

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LORAL ORION, INC.

COMM, INC.



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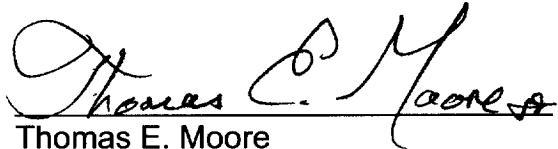
¹ Redesignation of the 17.7-19.7 GHz Frequency Band, Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-30.0 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast Satellite-Service Use, Notice of Proposed Rulemaking, IB Docket No. 98-172, 63 Fed. Reg. 54100 (Oct 8, 1998).

GE AMERICAN
COMMUNICATIONS, INC.



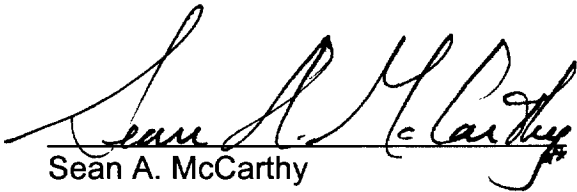
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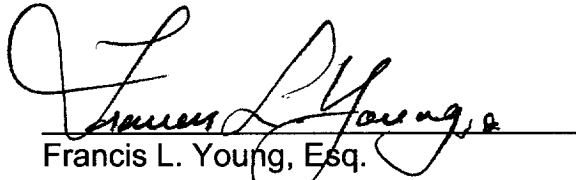
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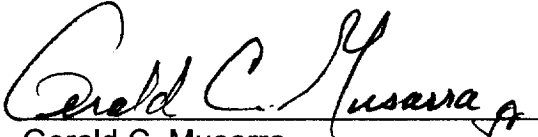
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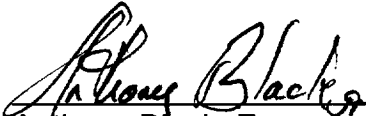
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September 27, 1999
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SECOND REPORT OF THE
GSO FSS KA-BAND BLANKET LICENSING INDUSTRY WORKING GROUP

September 27, 1999

Introduction

The GSO FSS Ka-Band Blanket Licensing Industry Working Group, which represents the U.S. GSO FSS Ka-band licensees, has met regularly since May 1997 to develop and recommend technical parameters for incorporation into the Commission's Rules to permit routine blanket licensing of large numbers of small Ka-band GSO FSS earth stations without the need to coordinate such stations with other U.S. GSO FSS Ka-band licensees.¹

On November 19, 1998, the Industry Working Group submitted a Report to the Commission outlining the progress it had made on, among other issues, downlink PFD spectral density values, uplink off-axis EIRP spectral density values, and uplink power control. At that time, the participants had not reached a consensus on all of these matters. Further meetings were scheduled to address the issues on which consensus had not been reached, such as the uplink off-axis EIRP spectral density value.

The Industry Working Group is pleased to advise the Commission that consensus has now been reached on all significant technical issues regarding blanket licensing Ka-band earth stations. This Second Report provides the Commission with the Industry Working Group's recommendations in the form of proposed rules. Attached as Annex 1 is a proposed Section 25.138 and a proposed amendment to Section 25.115.

The Industry Working Group urges the Commission to adopt these rules rather than the rule sections that the Commission proposed in its NPRM in IB Docket 98-172.

¹ See the attached for the frequency bands covered by this report.

In addition, the Industry Working Group urges the Commission not to adopt its proposed addition of new subsection (d) to Section 25.208, as it is inconsistent with the "coordination threshold" approach to blanket licensing that the Industry Working Group has adopted.

The Commission should note that the Group's proposed Section 25.138, consistent with the Commission's NPRM, governs only the routine licensing of blanket-licensed earth terminals. Also, the Industry Working Group intends that its proposed rules shall apply to blanket licensing of earth stations used in the United States. The Industry Working Group does not intend that the Commission will apply these blanket licensing rules to U.S.-licensed satellite systems outside the United States.

The Industry Working Group recommends that the Commission adopt the proposed rules contained in this Second Report in its rulemaking proceeding in IB Docket No. 98-172.

Proposed Ka-Band Blanket Licensing Rules

25.138 Blanket Licensing Provisions of GSO FSS Earth Stations in the X–Y GHz (space-to-Earth), 19.7–20.2 GHz (space-to-Earth), A–B GHz (Earth-to-space) and 29.5–30.0 GHz (Earth-to-space) bands.²

(a) All applications for a blanket earth station license in the GSO FSS in the X–Y GHz, 19.7–20.2 GHz, A–B GHz and 29.5–30.0 GHz bands that meet the following requirements shall be routinely processed:

(i) Off-axis EIRP spectral density for co-polarized signals shall not exceed the following values, within $\pm 3^\circ$ of the GSO arc, under clear sky conditions:

$18.5 - 25\log(\theta) - 10\log(N)$	dBW/40kHz	for $2.0^\circ \leq \theta \leq 7^\circ$
$-2.63 - 10\log(N)$	dBW/40kHz	for $7^\circ < \theta \leq 9.23^\circ$
$21.5 - 25\log(\theta) - 10\log(N)$	dBW/40kHz	for $9.23^\circ < \theta \leq 48^\circ$
$-10.5 - 10\log(N)$	dBW/40kHz	for $48^\circ < \theta \leq 180^\circ$

where θ is the angle in degrees from the axis of the main lobe; for systems where more than one earth station is expected to transmit simultaneously in the same bandwidth, e.g., CDMA systems, N is the likely maximum number of simultaneously transmitting co-frequency earth stations in the receive beam of the satellite; N=1 for TDMA systems.

(ii) Off-axis EIRP spectral density for co-polarized signals shall not exceed the following values, for all directions other than within $\pm 3^\circ$ of the GSO arc, under clear sky conditions:

$21.5 - 25\log(\theta) - 10\log(N)$	dBW/40kHz	for $3.5^\circ \leq \theta \leq 7^\circ$
$0.37 - 10\log(N)$	dBW/40kHz	for $7^\circ < \theta \leq 9.23^\circ$

² **EDITORIAL NOTE:** In proposed Section 25.138, “X-Y” and “A-B” refer to the additional Ka-band uplink and downlink spectrum that the Commission will designate for GSO FSS in this proceeding. While the Group has not undertaken to develop a position on the precise amount and location of additional Ka-band spectrum for blanket licensing, all of the members of the Group have in their comments in IB Docket 98-172 argued for blanket licensing in at least an additional 250 MHz of uplink and downlink spectrum and many of the members of the Group have argued for blanket licensing in an additional 500 MHz of uplink and downlink spectrum.

$24.5 - 25\log(\theta) - 10\log(N)$	dBW/40kHz	for $9.23^\circ < \theta \leq 48^\circ$
$-7.5 - 10\log(N)$	dBW/40kHz	for $48^\circ < \theta \leq 180^\circ$

where θ is the angle in degrees from the axis of the main lobe; for systems where more than one earth station is expected to transmit simultaneously in the same bandwidth, e.g., CDMA systems, N is the likely maximum number of simultaneously transmitting co-frequency earth stations in the receive beam of the satellite; $N=1$ for TDMA systems.

- (iii) The values given in (i) and (ii) above may be exceeded by 3 dB, for values of $\theta > 10^\circ$, provided that the total angular range over which this occurs does not exceed 20° when measured along both sides of the GSO arc.
- (iv) Off-axis EIRP spectral density for cross-polarized signals shall not exceed the following values, in all directions relative to the GSO arc, under clear sky conditions:

$8.5 - 25\log(\theta) - 10\log(N)$	dBW/40kHz	for $2.0^\circ \leq \theta \leq 7^\circ$
$-12.63 - 10\log(N)$	dBW/40kHz	for $7^\circ < \theta \leq 9.23^\circ$

where θ is the angle in degrees from the axis of the main lobe; for systems where more than one earth station is expected to transmit simultaneously in the same bandwidth, e.g., CDMA systems, N is the likely maximum number of simultaneously transmitting co-frequency earth stations in the receive beam of the satellite; $N=1$ for TDMA systems.

- (v) For earth stations employing uplink power control, the values in (i), (ii), and (iv) above may be exceeded by up to 20 dB under conditions of uplink fading due to precipitation. The amount of such increase in excess of the actual amount of monitored excess attenuation over clear sky propagation conditions shall not exceed 1.5 dB or 15 % of the actual amount of monitored excess attenuation in dB, whichever is larger, with a confidence level of 90 percent except over transient periods accounting for no more than 0.5% of the time during which the excess is no more than 4.0 dB.
 - (vi) Power flux density at the Earth's surface produced by emissions from a space station for all conditions, including clear sky, and for all methods of modulation shall not exceed a level of -118 dBW/m²/MHz.
- (b) Each applicant for blanket earth station license(s) that proposes levels in excess of those defined in (a) above shall submit link budget analyses of the operations proposed along with a detailed written explanation of how each uplink and each transmitted satellite carrier density figure is derived. Applicants shall also submit

a narrative summary which must indicate whether there are margin shortfalls in any of the current baseline services as a result of the addition of the applicant's higher power service, and if so, how the applicant intends to resolve those margin short falls. Applicants shall certify that all potentially affected parties acknowledge and do not object to the use of the applicant's higher power density.

- (c) Licensees authorized pursuant to paragraph (b) of this section shall bear the burden of coordinating with any future applicants or licensees whose proposed compliant operations, as defined by paragraph (a) of this section, is potentially or actually adversely affected by the operation of the non-compliant licensee. If no good faith agreement can be reached, however, the non-compliant licensee shall reduce its power density levels to be compliant with those specified in paragraph (a) of this section.
- (d) The applicant shall provide the antenna off-axis gain performance and the maximum power spectral density (per 40 kHz).
- (e) The applicant shall certify that any earth station installed pursuant to a blanket authorization will not show any sign of permanent distortion and will not need repointing after the application of a condition of 100 km/h maximum wind speed, with gusts of 130 km/h lasting 3 seconds. The pointing error, under normal operating conditions, is to be stated by the applicant. The off-axis EIRP spectral density masks given in (a)(i), (a)(ii) and (a)(iv) above include an allowance of 0.1° for earth station pointing errors under normal operating conditions. In the event that the stated pointing error under normal operating conditions exceeds 0.1° , by an amount $\delta\phi^\circ$, then the EIRP spectral density must remain within the masks given in (a)(i), (a)(ii) and (a)(iv) above when shifted by an angle $\pm(\delta\phi^\circ - 0.1^\circ)$.
- (f) No person shall transmit to a space station unless the user earth station is first authorized by the space station licensee or by a service vendor authorized by that licensee, and the specific transmission is conducted in accordance with the operating protocol specified by the system operator.
- (g) An application for blanket licensing authorization shall be filed on FCC Form 312, Main Form and Schedule B. A licensee applying to renew its license must include on FCC Form 405 the number of constructed earth station units in its network.

[ADD] 25.115 (e) User earth stations operating in the 20/30 GHz Fixed-Satellite Service with U.S.-licensed or non-U.S. licensed satellites. User earth stations operating in the

X-Y GHz, 19.7-20.2 GHz, A-B GHz and 29.5-30.0 GHz bands need not be individually licensed. Blanket applications for such earth stations may be filed using FCC Form 312, Main Form and Schedule B, and specifying the number of units to be covered by the blanket license. Each application for a blanket license under this section shall include the information described in §25.138.